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The impact of the military drawdown on USN aviator retention rates

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THESIS

THE IMPACT OF THE MILITARY DRAWDOWN ON USN AVIATOR RETENTION RATES

by

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The objective of this thesis is to design and construct a unique analytical data base to be used to examine the effects of the military drawdown on the retention of Naval aviators. Past analyses of retention have focused primarily on the individual retention decision. This thesis uses grouped data defined by year of commission, fiscal year, and aviator type. The analysis quantifies the relationship between various downsizing policies and cohort continuation rates while controlling for the effects of time-since-MSR (minimum service requirement) and civilian unemployment. Separate regression models are specified for the jet, prop, and helo pilot communities, and for the jet and prop NFO communities, with the continuation rate as the dependent variable. The models are estimated using weighted OLS. The samples contained observations on a total of 1,907 cohort continuation rates for each fiscal year between 1977 and 1993. The study found that the percentage of Aviation Continuation Pay bonuses available in a given year is directly related to the grouped continuation rate. The effect of the VSI/SSB and IRAD programs was found to be statistically insignificant. Thus, it was concluded that the downsizing policies have had only a minor effect on the underlying, baseline continuation rate.

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THE IMPACT OF THE MILITARY DRAWDOWN ON USN AVIATOR RETENTION RATES

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The objective of this thesis is to design and construct a unique analytical data base to be used to examine the effects of the military drawdown on the retention of Naval aviators. Past analyses of retention have focused primarily on the individual retention decision. This thesis uses grouped data defined by year of commission, fiscal year, and aviator type. The analysis quantifies the relationship between various downsizing policies and cohort continuation rates while controlling for the effects of time-since-MSR (minimum service requirement) and civilian unemployment. Separate regression models are specified for the jet, prop, and helo pilot communities, and for the jet and prop NFO communities, with the continuation rate as the dependent variable. The models are estimated using weighted OLS. The samples contained observations on a total of 1,907 cohort continuation rates for each fiscal year between 1977 and 1993. The study found that the percentage of Aviation Continuation Pay bonuses available in a given year is directly related to the grouped continuation rate. The effect of the VSI/SSB and IRAD programs was found to be statistically insignificant. Thus, it was concluded that the downsizing policies have had only a minor effect on the underlying, baseline continuation rate.

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I. INTRODUCTION

The objective of this thesis is to design and construct a unique analytical data base and to examine the effects of the military drawdown on the retention of Naval aviators. Having accurate measures of retention is vital to policymakers and planners, since retention rates influence many manpower requirements and force management policies. Herein lies the current problem: as part of the military drawdown, a number of policies were implemented whose goal was to induce separation. These policies thus reduced retention rates below what they normally would have been and distorted the underlying trend in voluntary retention. The purpose of this thesis is to identify and isolate the effect of these specific drawdown policies on aviator retention. The goal is to provide manpower planners with adjusted historical retention rates during that drawdown will serve as the basis for more accurate and reliable forecasts of future aviator retention in the post-drawdown period. These rates may also provide an early warning signal that policies may need to be altered to offset predicted changes in retention.

The training of Naval aviators, both pilots and Naval flight officers (NFOs), is among the most costly training provided by the Department of Defense and one of the biggest investments in human capital made by the Department of the Navy. Because of the size of this investment, retention must be sufficiently high to guarantee the Navy a return on its investment. Because of this, aviator retention rates are tracked and analyzed closely to detect future changes and to provide accurate and reliable data for policy formulation and manpower planning.

Two types of survival or retention rates are used to describe trends in the voluntary retention behavior of Naval aviators: (a) minimum service requirement (MSR) survival rates, and (b) cumulative continuation rates (CCR). MSR survival rates are true cohort rates in the sense that they track an aviation community from MSR-1 (the year before service obligation from flight school has been completed) to MSR+2 (two years after the obligation has been completed). This period, MSR-1 to MSR+2, encompasses the period at the end of a service obligation incurred in return for flight training; and it is generally the time of highest voluntary losses in the pre-retirement career period.

The cumulative continuation rate (CCR) is the second (and official) method of calculating a survival rate. The CCR is calculated as the product of continuation or retention rates from a given MSR (generally, year of service 6) through the eleventh year of service. The continuation rates are calculated based on the "spot" retention rates from the cross section of aviators in the Navy spanning those years of service. Hence, the CCR is not a cohort survival rate, but rather a cross-sectional snapshot of continuation behavior.

Although, both the MSR and CCR are used to describe trends in the voluntary retention behavior of Naval aviators, there is some debate as to which of the two measures provides the better indicator of retention trends. However, policies implemented as part of the force downsizing have made identifying trends more difficult. These policies include:

1. requiring additional obligated service in return for flight training,
2. changing the augmentation policies for reserves,
3. requiring additional obligated service in return for aviation continuation pay (bonus),
4. and offering voluntary separation incentives (Voluntary Separation Incentive/Special Separation Bonus program) to target officers.

Hence, it is appropriate to determine what effects the policies that have been implemented to achieve the drawdown, may have had on underlying voluntary survival rates of Naval aviators. Note, too, that the military downsizing itself may have influenced retention behavior, independent of the specific policies.

The purpose of this study is to separate the influence of drawdown policies affecting observed retention from the decisions of aviators that form the "true" underlying voluntary survival rates. A new set of survival rates can be constructed that reflect voluntary separation decisions, independent of separation induced by the drawdown policies. The effect of the various policies on observed retention in the original rates can then be estimated for both the MSR cohort rates and the CCRs. An overall assessment of the relative merits of the two methods of calculating retention is presented.

The effect of various policies is assessed at both a "micro" and a "macro" level. At the "micro" or individual level, the effect of policies on observed retention rates is assessed by calculating cohort rates based on the retention decisions of individual officers. A time line of policies affecting retention (e.g., date at which new MSR is effective and date for changes in Involuntary Reduction in Active Duty policies) is compared to actual transactions as indicated on personnel records. Involuntary individual retention/separation decisions have been deleted from the cohort rates. A synthetic set of "voluntary " rates is then constructed and compared with the original MSR and CCR rates.

The second, "macro" level adjustment to observed CCRs and MSR rates is based on a simple regression model. Continuation rates are calculated by fiscal year and year of service and related to policies that have likely influenced the rates in an "event" analysis. A regression analysis provides a quantitative estimate of the effect of those policies along with a method to adjust CCR and MSR rates.

II. LITERATURE REVIEW

Although no prior research has been conducted on the impact of military downsizing on Naval aviators, numerous studies have addressed aviator continuation rates. The continuation rate for a group of officers is the percent of a particular cohort (based on year of entry) remaining in the Navy over a given period. Because these rates influence numerous decisions concerning personnel policy, having accurate measures of aviator continuation is vital to defense policymakers and planners.

A. CALCULATING CONTINUATION RATES

Continuation rates measure the fraction of a cohort (sorted by designator and year group) remaining in a community from one year to the next. The continuation rate, C_t, is generally defined as the ratio of the inventory of a given cohort at the end of a period, A_t, divided by the inventory at the beginning of the period, N_t:

$$C_t = A_t / N_t$$

These simple continuation rates are used by planners to project the future availability of manpower. Accurate historical continuation rates are needed in planning for the number of pilots to train, the number to retain at different career points, and for determining the size and availability of monetary incentives such as the aviator bonus.

B. METHODOLOGIES

As previously observed, two methods are used to measure continuation behavior (Cymrot, 1988). The CCR is based on a cross section of continuation rates from different year groups in a single year. The CCR is used as an estimate of the probability of continuation over a segment of an aviator's career. In the aviation community, CR_{6-11} is used to measure continuation after the completion of the minimum service obligation for flight training. By using year of service (YOS) 6 as a starting point, the calculation captures all of the decisions at the time of completion of the initial service obligation, and encompasses the period of highest voluntary losses for aviators. The CCR is calculated as the product of the annual continuation rates for the desired range of years of service. Table 2.1 illustrates the calculation of CCR_{6-11} for pilots in Fiscal Year 1993 (omitting all involuntary separations). Thus, in 1993 the CCR was 36.02 percent. In Table 2.1, YG denotes the year group, and CR is the continuation rate for each YOS. The concept behind this calculation is that if we start with one hundred aviators at YOS = 6 and six leave, then ninety-four continue to YOS = 7 at which time fourteen leave, and so on until YOS = 11. Thus, at YOS = 11, only thirty-six of the original aviators are shown to remain.

Table 2.1 Calculation of CCR_{6-11} for Fiscal 1993

YOS	YG	N_t	A_t	CR(%) A_t/N_t
6	87	270	257	95.2
7	86	1,086	942	83.6
8	85	723	574	71.5
9	84	345	295	80.1
10	83	321	296	85.6
11	82	358	297	92.0

Source: See Appendix A

CCR = 36.02%

Legend: YOS = year of service, CR = continuation rate, N_t = beginning inventory, A_t = ending inventory.

An alternative method for calculating continuation is the historical continuation rate, which is calculated by tracking a single year group (YG) or set of year groups over a period of years. For example, YG 82 could be tracked from fiscal 1987 to fiscal 1990 to determine the minimum service requirement or MSR survival rates from MSR-1 to MSR+2. The starting inventory for each group is determined by counting the number of aviators on active duty at the end of the initial year (i.e., for MSR-1, the end of fiscal 1987 for YG 82). The aviators in this cohort are then tracked until the end of the final year (i.e., for MSR+2, the end of fiscal 1992 for YG 82). The continuation rate is the inventory at YOS 8 divided by the starting inventory.

C. CRITIQUE

Continuation rates reflect the outflow of manpower from a community. Difficulties in accurately measuring continuation rates arise due to manpower "turbulence," which results from the following cohort inflows and outflows:

1. Lateral ins - Lateral transfer of a non-aviator to an aviator designator.
2. Lateral outs - Lateral transfer of an aviator to a non-aviator designator.
3. Accessions - Those not on active duty the previous year (i.e., interservice transfer of an aviator or return to active duty).
4. Year group ins - Change of year group.
5. Year group outs - Change of year group.
6. Attrition - Those leaving the Navy.

Inflows result in the ending inventory for one fiscal year not corresponding to the inventory at the beginning of the following year. This leads to a difference in calculated gross and net continuation rates. Continuation rates based on the gross flow are generally lower than rates based on net flows and tend to exaggerate attrition. As the amount of turbulence in the data increases, the difference between gross and net continuation rates increases. (Cymrot, 1988) The following example illustrates the problem:

Gross CR	Net CR
Fiscal 1992 Beginning Inventory = 100	Fiscal 1992 Beginning Inventory = 100
Fiscal 1992 Ending Inventory = 90	Fiscal 1993 Beginning Inventory = 95
Gross CR = 90 percent	Net CR = 95 percent

Manpower planners and policymakers need to be aware of these differences and apply the appropriate rates to each situation. Cymrot (1988) concludes that, when continuation is used as an indicator of total inventory, inflows should be included in the calculation of endstrength. If the continuation rate is being used to measure the response of separation to policy changes, then the tracking of initial inventories (net CR) is a more accurate measure of continuation.

The inherent flaw with the CCR and MSR measures is that they do not take account of policies that are designed to alter retention. The potential failure to adjust in the CCR for changes in the MSR is a good example of this. The effects of aviator bonuses, voluntary and involuntary separation programs, and other policies are impounded in the rates. Although it is generally agreed that these policies affect the observed rates, policymakers and manpower planners are left conjecturing about the influence of such policies and the underlying retention rates.

D. BASELINE CONTINUATION RATES

Baseline continuation rates are defined as a set of continuation rates that would exist in the absence of any policies introduced to accomplish the downsizing. Forecasted baseline rates can be compared with the actual continuation rates during the downsizing to estimate the aggregate effect of the various downsizing policies on aviator continuation rates. Thus, the underlying continuation rate is the difference between the predicted baseline and the actual rates during the downsizing period.

Two alternative methods to calculate the baseline rate can be employed: (a) net continuation rates for a specific year, and (b) the average of the net continuation rates for a group of years (Cymrot, 1989). Net continuation rates are the ratios of the inventories of each year group at the end of one year to the inventories at the end of the previous year. Each method has its advantages and disadvantages. Utilizing historical rates from a single year will account for current economic conditions, but may exaggerate the influence of a single factor or event. The advantage of taking the average of rates over several years is that long-term trends may be more readily identified. The main disadvantage is that economic conditions that have since changed may bias the calculated results.

The baseline rates calculated in Table 2.2 for fiscal 1987 show that the greatest pilot losses occurred during YOS 6 through 8. An increase in the MSR to seven years would only delay the majority of attrition by two years. Cymrot (1989) concludes that increasing the MSR to seven years has no impact on the percentage of pilots remaining through YOS 11.

E. SUMMARY

The literature reviewed provided a number of alternative methods and approaches that have been used to determine continuation (retention) rates for Naval aviators. The variation in acceptable methods for computing continuation rates indicates the difficulty in clearly defining the continuation rate for a specific situation. By accurately determining the appropriate continuation rate, policy-driven influences can be measured and controlled, resulting in underlying survival rates that more accurately reflect voluntary retention decisions of Naval aviators during the force downsizing. This will be attempted in the following chapter.

Table 2.2 Baseline Continuation Rates by Years of Service

Year of Service	Fiscal 1987	Fiscal 1984-87(Average)
1	.87	.87
2	.98	.98
3	.99	.99
4	.99	.99
5	.98	.97
6	.82	.88
7	.74	.76
8	.78	.79
9	.89	.90
10	.88	.89
11	.85	.91
12	.92	.94
13	.93	.96
14	.94	.97
15	.94	.98

Source: Cymrot ,1989.

III. METHODOLOGY

A major component of this research was the design and construction of a unique data base. Historical research has focused primarily on individual data; however, this study analyzes "grouped" data for which there was no existing data base. The resultant analytical data base created for this study will provide future research with a data base better suited to analyze aviator continuation rates.

A. INDIVIDUAL DATA

The database utilized in this study was created from the Officer Master File (OMF) maintained by the Defense Manpower Data Center (DMDC). The OMF contained information on commissioning date, officer designator, loss code, additional qualifying designators (AQDs), Aviation Continuation Program (ACP) participation, and minimum service requirement (MSR). From these data, separate files were created for each of fifteen different fiscal years during the period 1977 to 1993. However, data were missing for fiscal years 1980 and 1983. The database that resulted from merging these fiscal year files contained observations on 16,626 Naval Aviators from year groups 1960 through 1993. Several constraints were placed on the database.

First, only active duty and active-reserve Naval Aviators were included in the files (designators 1310, 1315, 1320, and 1325). Next, in order to include only aviators who were eligible to make the stay-leave decision, those still obligated under their minimum service requirement during a given year were omitted. Also omitted, were any observations with a Stop-Loss indicator equal to one. This denoted individuals whose normal separation was delayed due to Desert Shield/Desert Storm. Finally, observations with a Separation Code Designator (SPD) that indicated reason for separation as being "other than voluntary" were discarded in order to include only aviators who were able to make a voluntary decision. After applying these filters, 14,580 observations were available for analysis.

B. COHORT DATA

A SAS program, coded to determine cohort beginning inventory and ending inventory was run for each fiscal year. Frequency tables were created for each year group by aviator "type" (jet pilot, helicopter pilot, propeller pilot, jet Naval Flight Officer, and propeller Naval Flight Officer). The first set of tables recorded beginning inventories by including all aviators present at the beginning and end of the fiscal year. The ending inventories were calculated by deleting any observation with an SPD. This process resulted in the dataset containing only aviators still remaining at the end of the corresponding fiscal year. Cohort continuation rates (CRs) were calculated by taking the cohort ending inventory and dividing it by the cohort beginning inventory. CRs were calculated for each fiscal year by year group and by aviator type. This resulted in 1,937 aviator cohort continuation rates (Appendix A).

A grouped data file was created using the aviator cohort continuation rates. Each cohort CR was defined as a separate observation in the new dataset. Each observation represents a separate fiscal year, year group, and aviator type. Variables of interest relevant to each observation were then created using fields from the OMF and external information. Annual unemployment data from the Bureau of Labor Statistics and reserve officer augmentation rates as reported by the Aviation Community Manager were created for each cell in the grouped data set. Any observations with a CR equal to 0 or from a year group that was still under MSR was discarded. The final grouped dataset contained 1,552 observations, representing aviator cohorts (year group 60 to 87) by aviator type for fiscal 1977 to 1993. The data represent continuation rates for each of these cells.

C. MODEL SPECIFICATION

The analysis focused on the effect of downsizing policies on aviator cohort continuation rates. The relationship of various downsizing policies to the continuation rate of aviators was specified by the following Ordinary Least Squares (OLS) multivariate regression model:

$$CR_i = \alpha_0 + B_1 ACP + B_2 VSI/SSB + B_3 IRAD + B_4 MSR2 + B_5 MSR3 + B_6 UNEMP + U$$

where, CR is the continuation rate for cell i, α is the intercept term, and the B's represent the coefficients of the variables in the equation to be estimated. The model is estimated using weighted least squares. Weights are used to account for the large variation in cell size across observations and to avoid heteroscedasticity.

The dependent variable, CR, is a continuous variable representing the continuation rate for a given cell. The independent variables are defined as follows:

1. *ACP* is the number of aviation continuation bonuses available to a cohort, defined as a percentage of the cohort;

2. *VSI/SSB* is the percentage of a cell that meets the eligibility requirements for the voluntary separation incentive (VSI) or special separation bonus (SSB);

3. *IRAD* is a dummy variable that captures the effect of the Involuntary Reduction in Active Duty (IRAD) policy[1];

4. *MSR2* is a dummy variable for aviators in the period MSR, MSR obligation completed, to MSR+2, two years since the completion of MSR obligation(1 = yes, 0 = no);

5. *MSR3* is a dummy variable for MSR+3 to MSR+5 (1 = yes, 0 = no);

6. *UNEMP* is the annual unemployment rate as reported by the Bureau of Labor Statistics. The error term is represented by *U*. Appendix B contains the mean values for each model variable.

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[1] Since the IRAD policy is a function of reserve augmentation rates and these rates generally affect only those in YOS 6 through YOS 11, and then, only that portion of the cohort that are reserves, the value of .30 was assumed to be the average percentage of reserves in each cohort. This value was applied only to cohorts with YOS 6 through YOS 11.

The expected or hypothesized direction (sign) of the relationships between the independent variables and the continuation rate is as follows:

1. ACP is hypothesized to have a positive effect on the continuation rate of both pilots and NFOs. Historically, the policy of offering monetary incentives to aviators to curtail projected manpower shortages has been successful. Theoretically, then, the assumption can be made that the greater the number of bonuses offered, the greater the continuation rate will be.

2. VSI/SSB is theorized to be negatively related to retention (continuation) for both groups. This voluntary downsizing policy is similar to *ACP*, but opposite in its intent. In this case, a monetary incentive is offered to increase separations, and should result in a decrease in CR.

3. *IRAD*, an involuntary downsizing policy, was the product of abnormally low augmentation rates for reserve aviators.[2] This policy resulted in the separation of an aviator if he/she failed to augment. Because it is a decrease in the norm, IRAD is hypothesized to have a negative impact on the continuation rates of pilots and NFOs.

4. *MSR2* is expected to have a negative relationship with both groups since it captures the period of time that historically accounts for the greatest manpower losses. The *MSR3* variable is theorized to be positively related to continuation. Historically, once individuals have survived through MSR+2, the relationship between years of service and the continuation rate becomes positive (see the calculated CRs in Appendix A).

5. *UNEMP* is a theoretically relevant environmental variable hypothesized to have an inverse relationship with the continuation rate. It is included in the analysis to investigate the statistical significance and magnitude of the effect of civilian employment conditions.

Seven separate OLS models were estimated, one for pilots, one for NFOs, and one for each respective community (jet, prop, helo, jet nfo, prop nfo). Separate models were run due to the sizable differences in retention behavior between pilots and NFOs, and between aviation communities that have been observed in prior studies (Cymrot, 1987).

[2] Augmentation rates for 1993, as reported by the Aviation Community Manager, were 21 percent for pilots and 15 percent for NFOs.

IV. STATISTICAL RESULTS

Results of estimating the weighted OLS models are presented in Tables 4.1 through 4.7. Results for each OLS equation (table) are first summarized. Based on the a priori hypothesized effects of the explanatory variables, a one-tail test of significance is used to test the significance of the regression coefficients (Gujarati, 1988). Following the summaries, each explanatory variable is examined by comparing the expected results and observed outcome of the models.

A. RESULTS OF ESTIMATING OLS MODELS FOR ALL PILOTS COMBINED AND NFOS COMBINED

1. The Pilot Model

Table 4.1 displays the results from a combined OLS model for all three pilot communities (jet, helo, prop). The ACP variable and time-since-MSR variables (MSR2 and MSR3) are all statistically significant for this combined model. The VSI/SSB is not statistically significant, and the positive sign is the opposite of the hypothesized negative relationship. This result occurred in all subsequent models and is discussed further in section C. The IRAD variable is also statistically insignificant; however, its sign is negative, as hypothesized. The unemployment variable also was not statistically significant in this model.

2. The NFO Model

Table 4.2 displays the results from an OLS model of NFO communities including both prop and jet aircraft types. The ACP and time-since-MSR variables are significant, as they were in the pilot model. Again, the remaining variables were not statistically significant. The different results (opposite signs for MSR2) between the two models is explained by the historically observed differences in retention behavior between pilots and NFOs (Cymrot, 1987).

Table 4.1 OLS Results for Pilots

MODEL 1 CR PILOT

VARIABLE	COEFF	t-VALUE
ACP	15.12	2.048*
VSI/SSB	5.92	0.884
IRAD	-3.79	-0.746
MSR2	-7.80	-2.909*
MSR3	11.14	3.694*
UNEMP	-0.40	-0.412
CONSTANT	88.56	13.763
Rsq. = .034 n = 932	F = 5.43*	*Sig. at .05

Table 4.2 OLS Results for NFOs

MODEL 2 CR NFO

VARIABLE	COEFF	t-VALUE
ACP	18.92	2.508*
VSI/SSB	4.83	0.838
IRAD	-5.39	-1.253
MSR2	5.44	1.954*
MSR3	10.94	3.852*
UNEMP	-0.79	-0.857
CONSTANT	88.65	14.492
Rsq. = .0431 n = 623	F = 4.629*	*Sig. at .05

B. RESULTS OF ESTIMATING SEPARATE OLS MODELS BY AIRCRAFT TYPE

1. Jet Pilots

Table 4.3 summarizes the OLS results using the grouped data for jet pilots. The ACP and IRAD variables were not statistically significant; however, the signs of the coefficients were positive and negative, respectively, as hypothesized. MSR2 and MSR3 were both significant with the expected signs. The remaining variables were not statistically significant.

Table 4.3 OLS results for Jet Pilots

MODEL 3 CR JET PILOT

VARIABLE	COEFF	t-VALUE
ACP	14.46	0.834
VSI/SSB	1.70	0.108
IRAD	-4.97	-0.443
MSR2	-12.16	-2.009*
MSR3	16.88	2.252*
UNEMP	-0.89	-0.387
CONSTANT	93.63	6.142
Rsq. = .0394 n = 310	F = 2.10*	*Sig. at .05

2. Helo Pilots

Table 4.4 summarizes the OLS results for helicopter pilots. ACP and MSR3 were statistically significant for helo pilots. The IRAD variable was insignificant, but displayed the hypothesized sign. Although the MSR2 variable was also insignificant, it should be noted that the sign of the coefficient was positive, which was not expected.

Table 4.4 OLS Results for Helo Pilots

MODEL 4 CR HELO PILOT

VARIABLE	COEFF	t-VALUE
ACP	20.01	1.783*
VSI/SSB	9.44	0.952
IRAD	-4.40	-0.533
MSR2	5.01	1.109
MSR3	12.06	2.797*
UNEMP	-1.04	-0.727
CONSTANT	89.08	9.427
Rsq. = .0457 n = 310	F = 2.428*	*Sig. at .05

3. Prop Pilots

Table 4.5 summarizes the OLS results for prop pilots. ACP, MSR2, MSR3, and UNEMP were all statistically significant with the expected signs. VSI/SSB and IRAD were not statistically significant.

Table 4.5 OLS Results for Prop Pilots

MODEL 5 CR PROP PILOT

VARIABLE	COEFF	t-VALUE
ACP	7.12	1.667*
VSI/SSB	5.94	1.479
IRAD	0.03	0.010
MSR2	-16.08	-11.029*
MSR3	3.11	1.852*
UNEMP	1.46	2.508*
CONSTANT	78.27	20.519
Rsq. = .3548 n = 310	F = 27.86*	*Sig. at .05

4. Prop NFOs

Table 4.6 summarizes the OLS results for prop NFOs. The ACP and MSR3 variables were statistically significant, and had the hypothesized signs. The remaining explanatory variables were not statistically significant.

Table 4.6 OLS Results for Prop NFOs

MODEL 6 CR PROP NFO

VARIABLE	COEFF	t-VALUE
ACP	17.73	2.014*
VSI/SSB	1.94	0.316
IRAD	-3.50	-0.711
MSR2	4.63	1.486
MSR3	9.74	3.038*
UNEMP	-0.43	-0.401
CONSTANT	87.29	12.446
Rsq. = .0538 n = 311	F = 2.89*	*Sig. at .05

5. Jet NFOs

Table 4.7 summarizes the OLS results for jet NFOs. The ACP and MSR3 variables were statistically significant. The remaining variables were not statistically significant. As with helo pilots, the MSR2 coefficient had a positive sign, which was contrary to expectations.

Table 4.7 OLS Results for Jet NFOs

MODEL 7 CR JET NFO

VARIABLE	COEFF	t-VALUE
ACP	20.49	1.67*
VSI/SSB	8.13	0.787
IRAD	-7.25	-1.023
MSR2	6.20	1.315
MSR3	12.16	2.557*
UNEMP	-1.16	-0.762
CONSTANT	90.00	8.918
Rsq. = .0396 n = 311	F = 2.10*	*Sig. at .05

C. DISCUSSION OF THE EFFECTS OF THE EXPLANATORY VARIABLES

1. Aviation Continuation Pay Program (ACP)

The ACP program variable, *ACP*, was statistically significant in the combined pilot and NFO models, with the coefficient indicating a direct relationship between the number of bonuses available and the grouped fiscal year continuation rates for pilots and NFOs. This result supports the hypothesized relationship. When the models were run separately for aircraft type, the ACP variable was significant in all models with the exception of jet pilots. This outcome indicates that an increase in the number of bonuses available to a community significantly increases the continuation rate of that community, averaged over year group and fiscal year.

2. Voluntary Separation Incentive Program (VSI)

VSI/SSB was statistically insignificant in all models but with a positive coefficient instead of the hypothesized negative value. This may be explained by the fact that this policy was targeted to a very small group of officers. It affected only 534 aviators (3.7 percent of dataset) and in only one fiscal year (1993). Also, the omission of other variables that influence CR and interact with *VSI/SSB* (i.e., years of service) will result in an upward bias of the *VSI/SSB* variable.

3. Involuntary Reduction in Active Duty Policy (IRAD)

The IRAD policy variable, *IRAD*, was not statistically significant in any model. This may be due to the small percentage of cohorts in the dataset affected by the IRAD (YG82 to YG87) and by the assumption that only 30 percent of those cohorts are affected. However, the signs of the coefficients were negative, as hypothesized. The results indicate that, with the IRAD policy in effect there is an observed decrease in the continuation rate.

4. MSR2

Having time in service between MSR0 and MSR+2 was significant for jet and prop pilots only. The results indicate a significant difference in retention behavior between pilots and NFOs, and between fixed wing and helicopter communities. For helo pilots and NFOs, not only was this variable insignificant, but the sign of the coefficient was positive. The historically large losses of aviators during this period of time are probably best attributed to the substantially larger separation rates in the jet and prop pilot communities due to the draw of the commercial airline industry. Having specialized skills with severely limited civilian applicability, helo pilots and NFOs are less apt than fixed wing pilots to separate at this time.

5. MSR3

For both pilots and NFOs, being at the career point between MSR+3 and MSR+5 (approximately equal to YOS 9-11) is a significant factor explaining continuation. There is a direct relationship, indicating that, as time-since-MSR increases beyond the MSR2 period, the continuation rate will increase, as hypothesized.

6. Civilian Unemployment

The annual civilian unemployment variable was significant only in the model for prop pilots. The coefficient indicates a direct relationship between the annual unemployment rate and the continuation rate of prop pilots. The fact that the skills required for flying multi-engine propeller aircraft and commercial airline aircraft are similar, results in prop pilots being a major source of new hires for the airline industry. Although jet pilots also fly fixed-wing aircraft, there is a significant difference in aircraft type, thus it is not as easy for jet pilots to transfer their skills to the commercial airline industry. As annual unemployment increases, it is be assumed that airline hiring rates are lower, resulting in fewer prop pilots separating.

D. GOODNESS-OF-FIT OF THE OLS MODELS

The model R^2, defined as the coefficient of determination, is one measure of the goodness-of-fit of a regression model. Specifically, it measures the proportion of the total variation in the dependent variable (CR) explained by the regression model. The R^2 for each model is displayed in Tables 4.1 through 4.7. The low R^2 values of the models are a function of attempting only to measure the effect of various policies on the continuation rate. The models probably suffer from specification bias because they omit some important factors that determine retention behavior (e.g., commercial airline hiring rates).

The F-value of the model is a measure of the overall significance of the estimated regression. It tests the null hypothesis that all of the estimated coefficients are jointly equal to zero. The calculated F-value for each model is displayed in Tables 4.1 through 4.7. The calculated F-value of each model is compared to the critical F-statistic of 2.10 (at the .05 level of significance). A calculated value greater than the critical value indicates that the null hypothesis can be rejected. Thus, despite the low R^2 values, the models are a significant improvement in explaining the variation in CR.

V. CONCLUSIONS

This thesis examines the relationship between various Navy downsizing policies introduced in the early 1990's and the continuation rate of Naval aviators. A unique database was developed for the analysis and will provide future retention research with the "grouped" data necessary to study aviator continuation rates. The analysis found that a statistically significant positive relationship exists between an increase in the amount of ACP bonuses and the continuation rate, within the pilot and NFO communities. Specifically, the study found that increasing the bonuses to the pilot community by one percent would increase the pilot continuation rate by 17.66 percent. At the same time, increasing the percentage of bonuses available to the NFO community by one percent would increase the NFO continuation rate by 20.68 percent. The VSI/SSB and IRAD downsizing policies were found to be statistically insignificant. The following list summarizes the estimated effect of the bonus on the pilot and NFO communities:

1. Jet pilot: a one percent increase in bonuses available to jet pilots resulted in a 15.7 percent increase in the jet pilot mean CR.

2. Helo pilot: a one percent increase in bonuses available to helo pilots resulted in a 21.7 percent increase in the helo pilot mean CR.

3. Prop pilot: a one percent increase in bonuses available to prop pilots resulted in a 8.1 percent increase in the prop pilot mean CR.

4. Jet NFO: a one percent increase in bonuses available to jet NFOs resulted in a 22.2 percent increase in the jet NFO mean CR.

5. Prop NFO: a one percent increase in bonuses available to prop NFOs resulted in a 19.6 percent increase in the prop NFO mean CR.

By isolating the effects of the various downsizing policies, estimated adjustments can now be applied to the historical rates to identify the "true" underlying retention rates. The following example illustrates the adjustment process. The CR for pilots in year group 85 for fiscal 1993 was 71.53 percent (see CRs in Appendix A). The variable ACP estimated coefficient from the pilot model is 15.12. Since the bonus increases retention, the adjustment is made by subtracting the coefficient value from the calculated rate. This results in an adjusted CR of 56.41 percent. The next adjustment is applied for the IRAD policy. Since the IRAD decreased normal retention, the adjustment is now made by adding the estimated coefficient value (3.79) to the CR of 56.41. The adjusted CR is now 60.2 percent. Because of the problems encountered in the model with the VSI/SSB variable, the adjustment for this policy was made by removing VSI/SSB takers from the 85 pilot cohort and then calculating the rate. This resulted in a 12.32 percent increase in the rate. Applying this adjustment to the ACP and IRAD adjusted CR of 60.2, resulted in the underlying baseline CR of 67.62. As can be seen the underlying retention rate is lower than the unadjusted reported rate of 71.53. This process can be applied to other cohorts in the same manner and the adjusted continuation rates can be used to calculate adjusted CCRs or MSR survival rates that will provide manpower planners and policymakers with the "true" underlying retention rate and an indicator of various downsizing policy effects.

A. SPECIFICATION BIAS

The omission of relevant variables in specifying the model may result in bias. Environmental variables, such as airline hiring rates and military/civilian pay ratios among other things, would also influence the continuation rate. The omission of these "influential" variables from the model specification would theoretically bias the resultant coefficient values. The consequences of omitting a relevant variable are as follows:

1. If the left out variable is correlated with the VSI/SSB variable, the estimated coefficients of the model will be biased as well as inconsistent.

2. The usual confidence interval and hypotheses testing procedures are likely to give misleading conclusions about the statistical significance of the estimated parameters.

3. The VSI/SSB variable will represent not only its direct effect on CR but also its indirect effect (via the omitted relevant variable) on CR. (Gujarati, 1988)

B. RECOMMENDATIONS

Future research should continue by adding new data to the file as the downsizing progresses. This will enable the model to be further refined. The model should also be expanded by adding the "environmental" variables mentioned above. The model should also be run at the level of the aviation subcommunity (i.e., VF, VA, HSL, VS, etc.), since this is the point at which the bonus is applied. Finally, the cohort database developed for this research should be merged with the OMF individual data to specify and estimate a retention model for aviators on individual data.

C. SUMMARY

Monitoring and correctly interpreting trends in aviator retention, along with understanding the impact of Navy policies, is a critical manpower function. This analysis identifies the statistical relationships between the various downsizing policies and the underlying voluntary survival rate of Naval aviators. This information provides manpower planners and policymakers with adjusted continuation rates that should enable a more accurate and reliable forecast of future aviator retention. Ultimately, this information should also provide a more refined force-shaping tool for determining and implementing effective aviator retention policies.

APPENDIX A. COHORT CONTINUATION RATES[3]

[3]Voluntary Rates; Involuntary Separations and Obligated Service Restricted Out; other restrictions noted in text.

Fy93					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
92	27	27	1.0000	9	9	1.0000	19	19	1.0000	55	55	1.0000
91	80	80	1.0000	9	9	1.0000	44	43	0.9773	133	132	0.9925
90	57	56	0.9825	30	29	0.9667	57	57	1.0000	144	142	0.9861
89	38	37	0.9737	34	34	1.0000	28	28	1.0000	100	99	0.9900
88	36	32	0.8889	33	33	1.0000	21	21	1.0000	90	86	0.9556
87	107	102	0.9533	67	65	0.9701	96	90	0.9375	270	257	0.9519
86	280	253	0.9036	287	248	0.8641	331	252	0.7613	898	753	0.8385
85	188	143	0.7606	273	216	0.7912	245	146	0.5959	706	505	0.7153
84	106	83	0.7830	91	69	0.7582	105	90	0.8571	302	242	0.8013
83	101	86	0.8515	63	52	0.8254	121	106	0.8760	285	244	0.8561
82	77	74	0.9610	85	74	0.8706	138	128	0.9275	300	276	0.9200
81	84	82	0.9762	51	51	1.0000	135	126	0.9333	270	259	0.9593
80	39	39	1.0000	23	21	0.9130	116	107	0.9224	178	167	0.9382
79	24	22	0.9167	48	43	0.8958	133	131	0.9850	205	196	0.9561
78	17	16	0.9412	27	24	0.8889	170	165	0.9706	214	205	0.9579
77	16	16	1.0000	23	22	0.9565	160	152	0.9500	199	190	0.9548
76	10	9	0.9000	9	7	0.7778	92	88	0.9565	111	104	0.9369
75	18	18	1.0000	19	19	1.0000	186	174	0.9355	223	211	0.9462
74	24	16	0.6667	23	17	0.7391	225	190	0.8444	272	223	0.8199
73	18	8	0.4444	23	16	0.6957	168	109	0.6488	209	133	0.6364
72	10	3	0.3000	14	13	0.9286	117	83	0.7094	141	99	0.7021
71	5	2	0.4000	3	2	0.6667	80	60	0.7500	88	64	0.7273
70	4	3	0.7500	7	6	0.8571	104	83	0.7981	115	92	0.8000
69	3	2	0.6667	12	8	0.6667	114	78	0.6842	129	88	0.6822
68	2	2	1.0000	5	4	0.8000	77	47	0.6104	84	53	0.6310
67	2	0	-	2	0	-	80	49	0.6125	84	49	0.5833
66	0	0	-	7	6	0.8571	56	28	0.5000	63	34	0.5397
65	0	0	-	2	1	0.5000	24	16	0.6667	26	17	0.6538
64	1	0	-	3	2	0.6667	25	18	0.7200	29	20	0.6897
63	0	0	-	0	0	-	13	7	0.5385	13	7	0.5385
62	0	0	-	1	1	1.0000	13	9	0.6923	14	10	0.7143
61	0	0	-	0	0	-	4	4	1.0000	4	4	1.0000
60	0	0	-	0	0	-	7	6	0.8571	7	6	0.8571
	1374	1211		1283	1101		3304	2710		5961	5022	

Fy93					NFO				
		JET			PROP		NFO		
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
92	0	0	-	1	1	1.0000	1	1	1.0000
91	9	9	1.0000	26	26	1.0000	35	35	1.0000
90	23	23	1.0000	41	39	0.9512	64	62	0.9688
89	33	33	1.0000	24	24	1.0000	57	57	1.0000
88	9	7	0.7778	28	28	1.0000	37	35	0.9459
87	58	58	1.0000	131	126	0.9618	189	184	0.9735
86	177	159	0.8983	225	186	0.8267	402	345	0.8582
85	202	122	0.6040	249	173	0.6948	451	295	0.6541
84	133	91	0.6842	177	131	0.7401	310	222	0.7161
83	92	78	0.8478	172	148	0.8605	264	226	0.8561
82	60	54	0.9000	123	119	0.9675	183	173	0.9454
81	59	58	0.9831	150	140	0.9333	209	198	0.9474
80	47	44	0.9362	174	163	0.9368	221	207	0.9367
79	24	21	0.8750	160	154	0.9625	184	175	0.9511
78	17	16	0.9412	127	118	0.9291	144	134	0.9306
77	19	19	1.0000	127	117	0.9213	146	136	0.9315
76	11	11	1.0000	82	73	0.8902	93	84	0.9032
75	15	12	0.8000	146	131	0.8973	161	143	0.8882
74	16	14	0.8750	154	106	0.6883	170	120	0.7059
73	18	13	0.7222	125	80	0.6400	143	93	0.6503
72	9	4	0.4444	55	30	0.5455	64	34	0.5313
71	7	3	0.4286	65	42	0.6462	72	45	0.6250
70	0	0	-	56	35	0.6250	56	35	0.6250
69	5	3	0.6000	39	20	0.5128	44	23	0.5227
68	5	2	0.4000	19	12	0.6316	24	14	0.5833
67	1	1	1.0000	16	9	0.5625	17	10	0.5882
66	0	0	-	20	11	0.5500	20	11	0.5500
65	0	0	-	4	3	0.7500	4	3	0.7500
64	0	0	-	4	3	0.7500	4	3	0.7500
63	0	0	-	5	2	0.4000	5	2	0.4000
62	0	0	-	0	0	-	0	0	-
61	0	0	-	0	0	-	0	0	-
60	0	0	-	2	1	0.5000	2	1	0.5000
	1049	855		2727	2251		3776	3106	

Fy92					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
91	5	5	1.0000	5	5	1.0000	8	8	1.0000	18	18	1.0000
90	11	10	0.9091	2	2	1.0000	8	8	1.0000	21	20	0.9524
89	16	16	1.0000	29	29	1.0000	18	18	1.0000	63	63	1.0000
88	20	20	1.0000	18	18	1.0000	7	7	1.0000	45	45	1.0000
87	30	30	1.0000	41	40	0.9756	31	30	0.9677	102	100	0.9804
86	183	175	0.9563	94	84	0.8936	205	173	0.8439	482	432	0.8963
85	213	178	0.8357	326	254	0.7791	299	235	0.7860	838	667	0.7959
84	127	97	0.7638	109	85	0.7798	145	102	0.7034	381	284	0.7454
83	117	109	0.9316	93	60	0.6452	148	111	0.7500	358	280	0.7821
82	103	103	1.0000	100	83	0.8300	152	143	0.9408	355	329	0.9268
81	98	98	1.0000	61	57	0.9344	135	130	0.9630	294	285	0.9694
80	39	39	1.0000	32	28	0.8750	110	107	0.9727	181	174	0.9613
79	33	32	0.9697	63	60	0.9524	117	113	0.9658	213	205	0.9624
78	24	23	0.9583	35	34	0.9714	160	155	0.9688	219	212	0.9680
77	16	16	1.0000	26	26	1.0000	159	154	0.9686	201	196	0.9751
76	10	9	0.9000	12	11	0.9167	90	90	1.0000	112	110	0.9821
75	19	19	1.0000	20	19	0.9500	189	182	0.9630	228	220	0.9649
74	26	25	0.9615	23	23	1.0000	225	218	0.9689	274	266	0.9708
73	25	23	0.9200	33	27	0.8182	188	157	0.8351	246	207	0.8415
72	16	14	0.8750	17	14	0.8235	162	116	0.7160	195	144	0.7385
71	10	7	0.7000	3	2	0.6667	100	77	0.7700	113	86	0.7611
70	5	5	1.0000	8	8	1.0000	126	103	0.8175	139	116	0.8345
69	4	3	0.7500	15	14	0.9333	134	113	0.8433	153	130	0.8497
68	4	2	0.5000	6	5	0.8333	97	81	0.8351	107	88	0.8224
67	3	1	0.3333	5	4	0.8000	103	86	0.8350	111	91	0.8198
66	2	0	0.0000	6	6	1.0000	77	54	0.7013	85	60	0.7059
65	0	0	0.0000	3	1	0.3333	39	24	0.6154	42	25	0.5952
64	1	0	0.0000	3	3	1.0000	27	24	0.8889	31	27	0.8710
63	1	1	1.0000	2	2	1.0000	21	18	0.8571	24	21	0.8750
62	0	0	0.0000	1	1	1.0000	14	13	0.9286	15	14	0.9333
61	0	0	0.0000	0	0	0.0000	5	4	0.8000	5	4	0.8000
60	0	0	0.0000	0	0	0.0000	7	7	1.0000	7	7	1.0000
	1161	1060		1191	1005		3306	2861		5658	4926	

Fy92					NFO				
		JET			PROP		NFO		
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
91	0	0	-	1	1	1.0000	1	1	1.0000
90	18	18	1.0000	17	16	0.9412	35	34	0.9714
89	11	11	1.0000	5	5	1.0000	16	16	1.0000
88	5	5	1.0000	20	20	1.0000	25	25	1.0000
87	11	10	0.9091	52	52	1.0000	63	62	0.9841
86	92	90	0.9783	114	109	0.9561	206	199	0.9660
85	213	200	0.9390	255	233	0.9137	468	433	0.9252
84	165	127	0.7697	203	159	0.7833	368	286	0.7772
83	113	93	0.8230	202	174	0.8614	315	267	0.8476
82	79	77	0.9747	146	141	0.9658	225	218	0.9689
81	69	69	1.0000	168	159	0.9464	237	228	0.9620
80	49	47	0.9592	179	168	0.9385	228	215	0.9430
79	29	28	0.9655	164	155	0.9451	193	183	0.9482
78	21	20	0.9524	126	123	0.9762	147	143	0.9728
77	21	21	1.0000	131	123	0.9389	152	144	0.9474
76	13	13	1.0000	84	75	0.8929	97	88	0.9072
75	13	12	0.9231	156	145	0.9295	169	157	0.9290
74	16	15	0.9375	167	153	0.9162	183	168	0.9180
73	24	22	0.9167	156	135	0.8654	180	157	0.8722
72	13	10	0.7692	73	51	0.6986	86	61	0.7093
71	8	7	0.8750	78	67	0.8590	86	74	0.8605
70	0	0	-	67	54	0.8060	67	54	0.8060
69	5	5	1.0000	54	44	0.8148	59	49	0.8305
68	5	5	1.0000	28	22	0.7857	33	27	0.8182
67	0	0	-	19	14	0.7368	19	14	0.7368
66	0	0	-	30	19	0.6333	30	19	0.6333
65	0	0	-	9	3	0.3333	9	3	0.3333
64	0	0	-	6	4	0.6667	6	4	0.6667
63	1	1	1.0000	7	7	1.0000	8	8	1.0000
62	0	0	-	0	0	-	0	0	-
61	0	0	-	1	0	-	1	0	-
60	0	0	-	2	2	1.0000	2	2	1.0000
	994	906		2720	2433		3714	3339	

Fy91					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
90	6	5	0.8333	2	1	0.5000	4	4	1.0000	12	10	0.8333
89	12	12	1.0000	30	30	1.0000	14	14	1.0000	56	56	1.0000
88	11	11	1.0000	7	7	1.0000	5	5	1.0000	23	23	1.0000
87	15	15	1.0000	41	41	1.0000	22	19	0.8636	78	75	0.9615
86	18	18	1.0000	20	20	1.0000	34	32	0.9412	72	70	0.9722
85	161	145	0.9006	178	150	0.8427	244	172	0.7049	583	467	0.8010
84	153	129	0.8431	139	100	0.7194	194	122	0.6289	486	351	0.7222
83	131	111	0.8473	138	85	0.6159	194	127	0.6546	463	323	0.6976
82	122	114	0.9344	131	96	0.7328	173	150	0.8671	426	360	0.8451
81	118	113	0.9576	80	70	0.8750	136	124	0.9118	334	307	0.9192
80	44	42	0.9545	39	35	0.8974	114	105	0.9211	197	182	0.9239
79	36	34	0.9444	81	71	0.8765	120	107	0.8917	237	212	0.8945
78	33	25	0.7576	62	49	0.7903	155	144	0.9290	250	218	0.8720
77	19	19	1.0000	48	42	0.8750	153	145	0.9477	220	206	0.9364
76	10	9	0.9000	32	26	0.8125	78	76	0.9744	120	111	0.9250
75	18	18	1.0000	46	43	0.9348	174	165	0.9483	238	226	0.9496
74	29	25	0.8621	55	52	0.9455	206	196	0.9515	290	273	0.9414
73	27	23	0.8519	62	54	0.8710	173	159	0.9191	262	236	0.9008
72	24	22	0.9167	47	40	0.8511	168	143	0.8512	239	205	0.8577
71	19	12	0.6316	36	30	0.8333	105	68	0.6476	160	110	0.6875
70	7	5	0.7143	47	45	0.9574	108	95	0.8796	162	145	0.8951
69	8	6	0.7500	54	50	0.9259	126	107	0.8492	188	163	0.8670
68	6	4	0.6667	44	37	0.8409	78	68	0.8718	128	109	0.8516
67	5	3	0.6000	49	46	0.9388	86	75	0.8721	140	124	0.8857
66	4	3	0.7500	50	46	0.9200	56	42	0.7500	110	91	0.8273
65	1	1	1.0000	25	20	0.8000	33	24	0.7273	59	45	0.7627
64	1	1	1.0000	21	17	0.8095	18	12	0.6667	40	30	0.7500
63	2	1	0.5000	12	10	0.8333	18	14	0.7778	32	25	0.7813
62	3	3	1.0000	18	12	0.6667	13	10	0.7692	34	25	0.7353
61	0	0	0.0000	2	2	1.0000	7	5	0.7143	9	7	0.7778
60	1	0	0.0000	6	5	0.8333	4	3	0.7500	11	8	0.7273
	1044	929		1602	1332		3013	2532		5659	4793	

Fy91					NFO				
		JET			PROP		NFO		
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
90	4	4	1.0000	13	13	1.0000	17	17	1.0000
89	3	2	0.6667	4	4	1.0000	7	6	0.8571
88	4	4	1.0000	18	18	1.0000	22	22	1.0000
87	3	3	1.0000	33	32	0.9697	36	35	0.9722
86	11	11	1.0000	28	28	1.0000	39	39	1.0000
85	133	126	0.9474	157	148	0.9427	290	274	0.9448
84	190	172	0.9053	210	194	0.9238	400	366	0.9150
83	135	112	0.8296	213	185	0.8685	348	297	0.8534
82	86	83	0.9651	160	146	0.9125	246	229	0.9309
81	83	80	0.9639	170	163	0.9588	253	243	0.9605
80	95	58	0.6105	174	171	0.9828	269	229	0.8513
79	44	40	0.9091	158	151	0.9557	202	191	0.9455
78	35	33	0.9429	117	114	0.9744	152	147	0.9671
77	33	31	0.9394	126	123	0.9762	159	154	0.9686
76	23	23	1.0000	74	70	0.9459	97	93	0.9588
75	24	23	0.9583	150	141	0.9400	174	164	0.9425
74	34	30	0.8824	156	146	0.9359	190	176	0.9263
73	50	48	0.9600	136	124	0.9118	186	172	0.9247
72	34	31	0.9118	82	68	0.8293	116	99	0.8534
71	30	24	0.8000	82	68	0.8293	112	92	0.8214
70	19	16	0.8421	65	54	0.8308	84	70	0.8333
69	21	17	0.8095	55	47	0.8545	76	64	0.8421
68	16	14	0.8750	29	19	0.6552	45	33	0.7333
67	7	6	0.8571	20	18	0.9000	27	24	0.8889
66	20	14	0.7000	20	18	0.9000	40	32	0.8000
65	4	1	0.2500	11	6	0.5455	15	7	0.4667
64	1	1	1.0000	7	5	0.7143	8	6	0.7500
63	8	5	0.6250	5	5	1.0000	13	10	0.7692
62	1	0	-	2	0	-	3	0	-
61	1	0	-	1	0	-	2	0	-
60	1	1	1.0000	1	1	1.0000	2	2	1.0000
	1153	1013		2477	2280		3630	3293	

Fy90					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
89	10	10	1.0000	2	2	1.0000	7	7	1.0000	19	19	1.0000
88	8	8	1.0000	4	4	1.0000	4	4	1.0000	16	16	1.0000
87	13	13	1.0000	39	39	1.0000	17	16	0.9412	69	68	0.9855
86	21	21	1.0000	15	15	1.0000	29	28	0.9655	65	64	0.9846
85	7	6	0.8571	38	37	0.9737	14	13	0.9286	59	56	0.9492
84	109	103	0.9450	47	31	0.6596	139	102	0.7338	295	236	0.8000
83	184	157	0.8533	190	127	0.6684	230	152	0.6609	604	436	0.7219
82	158	137	0.8671	190	133	0.7000	196	137	0.6990	544	407	0.7482
81	186	173	0.9301	106	91	0.8585	123	111	0.9024	415	375	0.9036
80	71	70	0.9859	51	44	0.8627	91	89	0.9780	213	203	0.9531
79	71	70	0.9859	79	76	0.9620	84	82	0.9762	234	228	0.9744
78	44	42	0.9545	72	58	0.8056	135	127	0.9407	251	227	0.9044
77	54	51	0.9444	56	46	0.8214	119	116	0.9748	229	213	0.9301
76	27	26	0.9630	33	30	0.9091	61	61	1.0000	121	117	0.9669
75	51	48	0.9412	56	53	0.9464	133	127	0.9549	240	228	0.9500
74	62	60	0.9677	52	52	1.0000	173	167	0.9653	287	279	0.9721
73	54	50	0.9259	61	56	0.9180	144	135	0.9375	259	241	0.9305
72	40	38	0.9500	41	41	1.0000	147	142	0.9660	228	221	0.9693
71	53	43	0.8113	29	26	0.8966	104	83	0.7981	186	152	0.8172
70	34	25	0.7353	48	35	0.7292	135	98	0.7259	217	158	0.7281
69	23	19	0.8261	63	54	0.8571	128	105	0.8203	214	178	0.8318
68	13	11	0.8462	41	37	0.9024	96	82	0.8542	150	130	0.8667
67	21	16	0.7619	50	49	0.9800	93	82	0.8817	164	147	0.8963
66	14	14	1.0000	52	48	0.9231	65	53	0.8154	131	115	0.8779
65	2	0	0.0000	33	27	0.8182	45	37	0.8222	80	64	0.8000
64	2	2	1.0000	30	27	0.9000	24	18	0.7500	56	47	0.8393
63	5	3	0.6000	18	13	0.7222	28	22	0.7857	51	38	0.7451
62	4	3	0.7500	20	18	0.9000	20	18	0.9000	44	39	0.8864
61	1	1	1.0000	11	6	0.5455	17	13	0.7647	29	20	0.6897
60	3	1	0.3333	7	6	0.8571	7	5	0.7143	17	12	0.7059
	1345	1221		1534	1281		2608	2232		5487	4734	

Fy90					NFO				
		JET			PROP		NFO		
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
89	1	1	1.0000	1	1	1.0000	2	2	1.0000
88	5	5	1.0000	19	19	1.0000	24	24	1.0000
87	2	2	1.0000	24	24	1.0000	26	26	1.0000
86	7	7	1.0000	25	25	1.0000	32	32	1.0000
85	5	5	1.0000	5	4	0.8000	10	9	0.9000
84	148	139	0.9392	130	126	0.9692	278	265	0.9532
83	192	173	0.9010	189	174	0.9206	381	347	0.9108
82	127	102	0.8031	166	137	0.8253	293	239	0.8157
81	141	132	0.9362	182	171	0.9396	323	303	0.9381
80	97	96	0.9897	157	155	0.9873	254	251	0.9882
79	58	57	0.9828	149	142	0.9530	207	199	0.9614
78	43	41	0.9535	117	111	0.9487	160	152	0.9500
77	59	59	1.0000	100	96	0.9600	159	155	0.9748
76	27	27	1.0000	74	70	0.9459	101	97	0.9604
75	49	46	0.9388	137	129	0.9416	186	175	0.9409
74	47	45	0.9574	156	139	0.8910	203	184	0.9064
73	53	52	0.9811	138	132	0.9565	191	184	0.9634
72	35	34	0.9714	82	75	0.9146	117	109	0.9316
71	33	28	0.8485	108	90	0.8333	141	118	0.8369
70	23	17	0.7391	80	60	0.7500	103	77	0.7476
69	27	24	0.8889	63	50	0.7937	90	74	0.8222
68	21	18	0.8571	39	28	0.7179	60	46	0.7667
67	10	10	1.0000	21	18	0.8571	31	28	0.9032
66	23	21	0.9130	28	24	0.8571	51	45	0.8824
65	7	6	0.8571	27	21	0.7778	34	27	0.7941
64	4	2	0.5000	20	17	0.8500	24	19	0.7917
63	8	7	0.8750	12	10	0.8333	20	17	0.8500
62	2	1	0.5000	10	4	0.4000	12	5	0.4167
61	2	0	-	7	3	0.4286	9	3	0.3333
60	1	1	1.0000	3	1	0.3333	4	2	0.5000
	1257	1158		2269	2056		3526	3214	

Fy89					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
88	6	6	1.0000	3	3	1.0000	2	2	1.0000	11	11	1.0000
87	8	8	1.0000	37	37	1.0000	12	12	1.0000	57	57	1.0000
86	22	21	0.9545	10	10	1.0000	18	15	0.8333	50	46	0.9200
85	6	6	1.0000	29	26	0.8966	7	7	1.0000	42	39	0.9286
84	9	9	1.0000	3	3	1.0000	7	7	1.0000	19	19	1.0000
83	93	86	0.9247	35	25	0.7143	125	81	0.6480	253	192	0.7589
82	179	155	0.8659	195	133	0.6821	266	178	0.6692	640	466	0.7281
81	206	180	0.8738	151	105	0.6954	157	114	0.7261	514	399	0.7763
80	96	92	0.9583	61	51	0.8361	97	87	0.8969	254	230	0.9055
79	83	82	0.9880	87	81	0.9310	83	79	0.9518	253	242	0.9565
78	55	52	0.9455	76	74	0.9737	135	131	0.9704	266	257	0.9662
77	57	57	1.0000	61	55	0.9016	119	110	0.9244	237	222	0.9367
76	28	27	0.9643	38	31	0.8158	63	60	0.9524	129	118	0.9147
75	53	52	0.9811	56	55	0.9821	142	134	0.9437	251	241	0.9602
74	66	64	0.9697	52	50	0.9615	182	168	0.9231	300	282	0.9400
73	56	52	0.9286	63	58	0.9206	144	137	0.9514	263	247	0.9392
72	41	40	0.9756	38	38	1.0000	154	151	0.9805	233	229	0.9828
71	56	53	0.9464	29	28	0.9655	104	97	0.9327	189	178	0.9418
70	56	48	0.8571	56	47	0.8393	167	124	0.7425	279	219	0.7849
69	35	26	0.7429	72	52	0.7222	176	126	0.7159	283	204	0.7208
68	14	13	0.9286	41	38	0.9268	117	94	0.8034	172	145	0.8430
67	24	21	0.8750	43	41	0.9535	109	96	0.8807	176	158	0.8977
66	15	15	1.0000	51	49	0.9608	80	63	0.7875	146	127	0.8699
65	4	3	0.7500	35	30	0.8571	50	43	0.8600	89	76	0.8539
64	4	3	0.7500	33	28	0.8485	39	33	0.8462	76	64	0.8421
63	5	5	1.0000	20	17	0.8500	33	24	0.7273	58	46	0.7931
62	5	5	1.0000	19	17	0.8947	25	20	0.8000	49	42	0.8571
61	3	3	1.0000	13	11	0.8462	22	17	0.7727	38	31	0.8158
60	6	3	0.5000	12	9	0.7500	15	12	0.8000	33	24	0.7273
	1291	1187		1419	1202		2650	2222		5360	4611	

Fy89					NFO				
		JET			PROP			NFO	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
88	4	4	1.0000	12	12	1.0000	16	16	1.0000
87	2	2	1.0000	0	0	-	2	2	1.0000
86	2	2	1.0000	10	10	1.0000	12	12	1.0000
85	2	2	1.0000	2	2	1.0000	4	4	1.0000
84	16	16	1.0000	2	2	1.0000	18	18	1.0000
83	137	125	0.9124	125	114	0.9120	262	239	0.9122
82	144	124	0.8611	179	158	0.8827	323	282	0.8731
81	168	145	0.8631	200	171	0.8550	368	316	0.8587
80	138	129	0.9348	193	182	0.9430	331	311	0.9396
79	61	58	0.9508	157	150	0.9554	218	208	0.9541
78	46	43	0.9348	123	121	0.9837	169	164	0.9704
77	62	62	1.0000	104	98	0.9423	166	160	0.9639
76	28	28	1.0000	75	72	0.9600	103	100	0.9709
75	47	47	1.0000	142	138	0.9718	189	185	0.9788
74	47	43	0.9149	171	149	0.8713	218	192	0.8807
73	53	50	0.9434	144	137	0.9514	197	187	0.9492
72	35	34	0.9714	86	84	0.9767	121	118	0.9752
71	36	34	0.9444	109	105	0.9633	145	139	0.9586
70	31	24	0.7742	99	81	0.8182	130	105	0.8077
69	37	26	0.7027	86	61	0.7093	123	87	0.7073
68	26	21	0.8077	42	35	0.8333	68	56	0.8235
67	10	9	0.9000	26	19	0.7308	36	28	0.7778
66	23	21	0.9130	30	27	0.9000	53	48	0.9057
65	5	5	1.0000	34	30	0.8824	39	35	0.8974
64	5	2	0.4000	25	21	0.8400	30	23	0.7667
63	9	8	0.8889	15	14	0.9333	24	22	0.9167
62	5	2	0.4000	13	10	0.7692	18	12	0.6667
61	3	2	0.6667	7	7	1.0000	10	9	0.9000
60	3	3	1.0000	5	5	1.0000	8	8	1.0000
	1185	1071		2216	2015		3401	3086	

Fy88					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
87	6	6	1.0000	1	1	1.0000	1	1	1.0000	8	8	1.0000
86	8	8	1.0000	6	5	0.8333	8	7	0.8750	22	20	0.9091
85	5	5	1.0000	15	10	0.6667	7	7	1.0000	27	22	0.8148
84	4	4	1.0000	1	1	1.0000	2	2	1.0000	7	7	1.0000
83	9	9	1.0000	3	3	1.0000	7	6	0.8571	19	18	0.9474
82	111	94	0.8468	53	39	0.7358	196	115	0.5867	360	248	0.6889
81	243	218	0.8971	212	133	0.6274	214	119	0.5561	669	470	0.7025
80	116	105	0.9052	105	70	0.6667	87	72	0.8276	308	247	0.8019
79	102	102	1.0000	125	106	0.8480	78	71	0.9103	305	279	0.9148
78	77	74	0.9610	91	88	0.9670	119	112	0.9412	287	274	0.9547
77	67	66	0.9851	73	63	0.8630	114	102	0.8947	254	231	0.9094
76	31	29	0.9355	42	37	0.8810	61	58	0.9508	134	124	0.9254
75	62	62	1.0000	66	63	0.9545	133	128	0.9624	261	253	0.9693
74	81	81	1.0000	54	54	1.0000	173	156	0.9017	308	291	0.9448
73	63	59	0.9365	67	62	0.9254	137	128	0.9343	267	249	0.9326
72	49	48	0.9796	42	42	1.0000	147	142	0.9660	238	232	0.9748
71	60	58	0.9667	26	25	0.9615	106	102	0.9623	192	185	0.9635
70	65	64	0.9846	53	52	0.9811	164	157	0.9573	282	273	0.9681
69	56	51	0.9107	81	64	0.7901	202	160	0.7921	339	275	0.8112
68	27	16	0.5926	65	43	0.6615	158	111	0.7025	250	170	0.6800
67	28	26	0.9286	47	38	0.8085	131	108	0.8244	206	172	0.8350
66	20	15	0.7500	51	50	0.9804	90	77	0.8556	161	142	0.8820
65	5	4	0.8000	36	32	0.8889	57	48	0.8421	98	84	0.8571
64	7	4	0.5714	28	26	0.9286	55	44	0.8000	90	74	0.8222
63	8	7	0.8750	22	20	0.9091	41	35	0.8537	71	62	0.8732
62	5	5	1.0000	20	17	0.8500	36	26	0.7222	61	48	0.7869
61	3	3	1.0000	15	13	0.8667	24	22	0.9167	42	38	0.9048
60	9	6	0.6667	11	9	0.8182	22	16	0.7273	42	31	0.7381
	1327	1229		1411	1166		2570	2132		5308	4527	

Fy88					NFO				
		JET			PROP			NFO	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
87	0	0	-	0	0	-	0	0	-
86	1	1	1.0000	11	11	1.0000	12	12	1.0000
85	1	1	1.0000	2	2	1.0000	3	3	1.0000
84	2	2	1.0000	3	3	1.0000	5	5	1.0000
83	30	30	1.0000	25	24	0.9600	55	54	0.9818
82	130	117	0.9000	133	122	0.9173	263	239	0.9087
81	207	185	0.8937	212	185	0.8726	419	370	0.8831
80	175	155	0.8857	200	169	0.8450	375	324	0.8640
79	92	90	0.9783	182	179	0.9835	274	269	0.9818
78	68	66	0.9706	125	123	0.9840	193	189	0.9793
77	69	69	1.0000	105	98	0.9333	174	167	0.9598
76	32	31	0.9688	74	70	0.9459	106	101	0.9528
75	50	49	0.9800	141	137	0.9716	191	186	0.9738
74	53	50	0.9434	170	163	0.9588	223	213	0.9552
73	59	56	0.9492	140	135	0.9643	199	191	0.9598
72	34	33	0.9706	91	90	0.9890	125	123	0.9840
71	36	35	0.9722	111	110	0.9910	147	145	0.9864
70	32	31	0.9688	105	95	0.9048	137	126	0.9197
69	51	41	0.8039	103	82	0.7961	154	123	0.7987
68	31	26	0.8387	58	43	0.7414	89	69	0.7753
67	12	10	0.8333	35	25	0.7143	47	35	0.7447
66	23	21	0.9130	36	30	0.8333	59	51	0.8644
65	6	4	0.6667	39	36	0.9231	45	40	0.8889
64	8	5	0.6250	28	24	0.8571	36	29	0.8056
63	11	10	0.9091	19	16	0.8421	30	26	0.8667
62	4	3	0.7500	19	14	0.7368	23	17	0.7391
61	4	4	1.0000	10	7	0.7000	14	11	0.7857
60	3	3	1.0000	7	5	0.7143	10	8	0.8000
	1224	1128		2184	1998		3408	3126	

Fy87					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
86	6	6	1.0000	4	4	1.0000	10	10	1.0000	20	20	1.0000
85	4	4	1.0000	7	7	1.0000	7	7	1.0000	18	18	1.0000
84	3	3	1.0000	0	0	-	2	2	1.0000	5	5	1.0000
83	7	7	1.0000	2	2	1.0000	6	6	1.0000	15	15	1.0000
82	43	42	0.9767	2	2	1.0000	49	44	0.8980	94	88	0.9362
81	219	208	0.9498	115	80	0.6957	215	127	0.5907	549	415	0.7559
80	124	117	0.9435	136	103	0.7574	108	84	0.7778	368	304	0.8261
79	114	107	0.9386	151	128	0.8477	82	71	0.8659	347	306	0.8818
78	90	88	0.9778	105	97	0.9238	117	114	0.9744	312	299	0.9583
77	80	78	0.9750	78	76	0.9744	114	111	0.9737	272	265	0.9743
76	38	36	0.9474	41	40	0.9756	63	59	0.9365	142	135	0.9507
75	69	69	1.0000	68	65	0.9559	125	122	0.9760	262	256	0.9771
74	102	101	0.9902	51	51	1.0000	154	144	0.9351	307	296	0.9642
73	74	70	0.9459	69	62	0.8986	131	123	0.9389	274	255	0.9307
72	73	72	0.9863	47	47	1.0000	128	123	0.9609	248	242	0.9758
71	77	75	0.9740	26	25	0.9615	94	92	0.9787	197	192	0.9746
70	100	99	0.9900	54	52	0.9630	138	135	0.9783	292	286	0.9795
69	78	77	0.9872	84	82	0.9762	181	170	0.9392	343	329	0.9592
68	46	37	0.8043	75	57	0.7600	168	146	0.8690	289	240	0.8304
67	59	48	0.8136	63	52	0.8254	124	93	0.7500	246	193	0.7846
66	40	32	0.8000	50	46	0.9200	78	69	0.8846	168	147	0.8750
65	16	15	0.9375	31	27	0.8710	59	52	0.8814	106	94	0.8868
64	11	10	0.9091	17	16	0.9412	59	55	0.9322	87	81	0.9310
63	11	11	1.0000	19	19	1.0000	45	39	0.8667	75	69	0.9200
62	20	17	0.8500	16	14	0.8750	42	36	0.8571	78	67	0.8590
61	7	7	1.0000	15	11	0.7333	28	24	0.8571	50	42	0.8400
60	12	11	0.9167	9	9	1.0000	21	19	0.9048	42	39	0.9286
	1523	1447		1335	1174		2348	2077		5206	4698	

Fy87					NFO				
		JET			PROP			NFO	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
86	1	1	1.0000	11	11	1.0000	12	12	1.0000
85	1	1	1.0000	3	3	1.0000	4	4	1.0000
84	2	2	1.0000	2	2	1.0000	4	4	1.0000
83	12	12	1.0000	11	11	1.0000	23	23	1.0000
82	33	29	0.8788	27	27	1.0000	60	56	0.9333
81	180	167	0.9278	175	170	0.9714	355	337	0.9493
80	188	177	0.9415	218	194	0.8899	406	371	0.9138
79	106	99	0.9340	178	167	0.9382	284	266	0.9366
78	78	76	0.9744	124	122	0.9839	202	198	0.9802
77	76	76	1.0000	103	102	0.9903	179	178	0.9944
76	36	35	0.9722	69	68	0.9855	105	103	0.9810
75	57	56	0.9825	137	134	0.9781	194	190	0.9794
74	65	62	0.9538	152	145	0.9539	217	207	0.9539
73	68	65	0.9559	128	125	0.9766	196	190	0.9694
72	41	39	0.9512	89	87	0.9775	130	126	0.9692
71	42	42	1.0000	99	96	0.9697	141	138	0.9787
70	38	37	0.9737	94	90	0.9574	132	127	0.9621
69	57	56	0.9825	87	83	0.9540	144	139	0.9653
68	32	29	0.9063	60	54	0.9000	92	83	0.9022
67	20	17	0.8500	31	19	0.6129	51	36	0.7059
66	22	20	0.9091	38	34	0.8947	60	54	0.9000
65	11	9	0.8182	36	34	0.9444	47	43	0.9149
64	8	8	1.0000	29	25	0.8621	37	33	0.8919
63	10	10	1.0000	19	17	0.8947	29	27	0.9310
62	4	4	1.0000	21	19	0.9048	25	23	0.9200
61	4	4	1.0000	12	7	0.5833	16	11	0.6875
60	2	2	1.0000	7	7	1.0000	9	9	1.0000
	1194	1135		1960	1853		3154	2988	

Fy86					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
85	1	1	1.0000	0	0	0.0000	0	0	0.0000	1	1	1.0000
84	2	2	1.0000	0	0	0.0000	0	0	0.0000	2	2	1.0000
83	7	7	1.0000	0	0	0.0000	5	5	1.0000	12	12	1.0000
82	31	31	1.0000	2	2	1.0000	32	32	1.0000	65	65	1.0000
81	99	99	1.0000	59	59	1.0000	134	132	0.9851	292	290	0.9932
80	134	129	0.9627	121	111	0.9174	166	121	0.7289	421	361	0.8575
79	148	135	0.9122	195	158	0.8103	160	102	0.6375	503	395	0.7853
78	129	116	0.8992	144	122	0.8472	134	114	0.8507	407	352	0.8649
77	105	102	0.9714	103	96	0.9320	126	117	0.9286	334	315	0.9431
76	46	44	0.9565	49	47	0.9592	73	69	0.9452	168	160	0.9524
75	81	78	0.9630	80	73	0.9125	140	132	0.9429	301	283	0.9402
74	111	108	0.9730	56	55	0.9821	160	152	0.9500	327	315	0.9633
73	81	75	0.9259	75	67	0.8933	135	129	0.9556	291	271	0.9313
72	79	78	0.9873	56	53	0.9464	126	120	0.9524	261	251	0.9617
71	85	83	0.9765	29	27	0.9310	91	88	0.9670	205	198	0.9659
70	116	115	0.9914	60	58	0.9667	130	127	0.9769	306	300	0.9804
69	82	82	1.0000	95	94	0.9895	182	174	0.9560	359	350	0.9749
68	49	47	0.9592	80	79	0.9875	172	170	0.9884	301	296	0.9834
67	75	70	0.9333	75	71	0.9467	158	143	0.9051	308	284	0.9221
66	50	45	0.9000	75	56	0.7467	115	86	0.7478	240	187	0.7792
65	21	18	0.8571	33	31	0.9394	72	59	0.8194	126	108	0.8571
64	10	10	1.0000	23	18	0.7826	71	60	0.8451	104	88	0.8462
63	12	12	1.0000	20	19	0.9500	51	47	0.9216	83	78	0.9398
62	20	19	0.9500	22	21	0.9545	50	41	0.8200	92	81	0.8804
61	7	6	0.8571	18	17	0.9444	41	31	0.7561	66	54	0.8182
60	18	16	0.8889	9	9	1.0000	32	28	0.8750	59	53	0.8983
	1599	1528		1479	1343		2556	2279		5634	5150	

Fy86					NFO				
		JET			PROP			NFO	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
85	0	0	-	0	0	-	0	0	-
84	2	2	1.0000	0	0	-	2	2	1.0000
83	11	11	1.0000	12	12	1.0000	23	23	1.0000
82	6	6	1.0000	9	9	1.0000	15	15	1.0000
81	57	57	1.0000	32	32	1.0000	89	89	1.0000
80	191	185	0.9686	199	189	0.9497	390	374	0.9590
79	137	126	0.9197	196	182	0.9286	333	308	0.9249
78	97	90	0.9278	130	120	0.9231	227	210	0.9251
77	107	100	0.9346	113	109	0.9646	220	209	0.9500
76	47	46	0.9787	78	73	0.9359	125	119	0.9520
75	64	62	0.9688	142	141	0.9930	206	203	0.9854
74	71	68	0.9577	157	149	0.9490	228	217	0.9518
73	70	68	0.9714	133	131	0.9850	203	199	0.9803
72	46	45	0.9783	89	89	1.0000	135	134	0.9926
71	48	48	1.0000	99	95	0.9596	147	143	0.9728
70	44	43	0.9773	92	90	0.9783	136	133	0.9779
69	66	65	0.9848	88	88	1.0000	154	153	0.9935
68	38	38	1.0000	63	61	0.9683	101	99	0.9802
67	32	28	0.8750	37	36	0.9730	69	64	0.9275
66	27	24	0.8889	54	38	0.7037	81	62	0.7654
65	12	11	0.9167	44	36	0.8182	56	47	0.8393
64	10	9	0.9000	34	32	0.9412	44	41	0.9318
63	11	11	1.0000	21	19	0.9048	32	30	0.9375
62	7	5	0.7143	25	22	0.8800	32	27	0.8438
61	4	4	1.0000	18	15	0.8333	22	19	0.8636
60	2	2	1.0000	11	9	0.8182	13	11	0.8462
	1207	1154		1876	1777		3083	2931	

Fy85					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
84	1	1	1.0000	0	0	0.0000	0	0	0.0000	1	1	1.0000
83	9	9	1.0000	23	23	1.0000	27	27	1.0000	59	59	1.0000
82	40	40	1.0000	44	44	1.0000	71	71	1.0000	155	155	1.0000
81	62	61	0.9839	62	62	1.0000	89	88	0.9888	213	211	0.9906
80	94	94	1.0000	55	55	1.0000	158	157	0.9937	307	306	0.9967
79	158	155	0.9810	141	121	0.8582	194	155	0.7990	493	431	0.8742
78	159	148	0.9308	233	173	0.7425	224	151	0.6741	616	472	0.7662
77	129	122	0.9457	147	131	0.8912	161	138	0.8571	437	391	0.8947
76	54	52	0.9630	63	60	0.9524	80	74	0.9250	197	186	0.9442
75	91	91	1.0000	99	96	0.9697	134	132	0.9851	324	319	0.9846
74	129	128	0.9922	69	67	0.9710	152	145	0.9539	350	340	0.9714
73	99	94	0.9495	82	76	0.9268	119	112	0.9412	300	282	0.9400
72	87	86	0.9885	62	60	0.9677	116	111	0.9569	265	257	0.9698
71	89	87	0.9775	34	32	0.9412	87	84	0.9655	210	203	0.9667
70	134	133	0.9925	71	70	0.9859	104	101	0.9712	309	304	0.9838
69	92	92	1.0000	105	104	0.9905	170	162	0.9529	367	358	0.9755
68	63	62	0.9841	104	103	0.9904	150	147	0.9800	317	312	0.9842
67	83	83	1.0000	106	101	0.9528	138	134	0.9710	327	318	0.9725
66	67	60	0.8955	104	91	0.8750	124	115	0.9274	295	266	0.9017
65	43	35	0.8140	51	41	0.8039	81	67	0.8272	175	143	0.8171
64	15	15	1.0000	35	29	0.8286	78	65	0.8333	128	109	0.8516
63	18	14	0.7778	24	23	0.9583	59	51	0.8644	101	88	0.8713
62	19	19	1.0000	31	31	1.0000	54	46	0.8519	104	96	0.9231
61	10	8	0.8000	21	20	0.9524	47	43	0.9149	78	71	0.9103
60	20	19	0.9500	24	21	0.8750	39	36	0.9231	83	76	0.9157
	1765	1708		1790	1634		2656	2412		6211	5754	

Fy85					NFO				
		JET			PROP		NFO		
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
84	9	9	1.0000	0	0	-	9	9	1.0000
83	44	44	1.0000	41	41	1.0000	85	85	1.0000
82	12	12	1.0000	8	8	1.0000	20	20	1.0000
81	29	29	1.0000	26	26	1.0000	55	55	1.0000
80	79	79	1.0000	81	81	1.0000	160	160	1.0000
79	155	145	0.9355	210	204	0.9714	365	349	0.9562
78	114	110	0.9649	138	134	0.9710	252	244	0.9683
77	127	121	0.9528	132	119	0.9015	259	240	0.9266
76	57	54	0.9474	139	79	0.5683	196	133	0.6786
75	78	75	0.9615	144	141	0.9792	222	216	0.9730
74	88	83	0.9432	158	153	0.9684	246	236	0.9593
73	76	74	0.9737	132	130	0.9848	208	204	0.9808
72	53	53	1.0000	89	84	0.9438	142	137	0.9648
71	55	52	0.9455	101	98	0.9703	156	150	0.9615
70	51	50	0.9804	91	88	0.9670	142	138	0.9718
69	84	84	1.0000	78	78	1.0000	162	162	1.0000
68	43	42	0.9767	63	62	0.9841	106	104	0.9811
67	37	36	0.9730	36	36	1.0000	73	72	0.9863
66	41	37	0.9024	65	58	0.8923	106	95	0.8962
65	23	16	0.6957	69	49	0.7101	92	65	0.7065
64	15	13	0.8667	44	37	0.8409	59	50	0.8475
63	15	15	1.0000	24	21	0.8750	39	36	0.9231
62	10	9	0.9000	27	23	0.8519	37	32	0.8649
61	5	5	1.0000	21	17	0.8095	26	22	0.8462
60	5	5	1.0000	15	12	0.8000	20	17	0.8500
	1305	1252		1932	1779		3237	3031	

Fy84					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
83	11	11	1.0000	0	0	0.0000	2	2	1.0000	13	13	1.0000
82	34	34	1.0000	4	4	1.0000	26	26	1.0000	64	64	1.0000
81	43	43	1.0000	66	66	1.0000	48	46	0.9583	157	155	0.9873
80	16	16	1.0000	11	11	1.0000	11	11	1.0000	38	38	1.0000
79	53	53	1.0000	29	29	1.0000	46	43	0.9348	128	125	0.9766
78	103	98	0.9515	138	125	0.9058	216	197	0.9120	457	420	0.9190
77	149	141	0.9463	176	165	0.9375	222	184	0.8288	547	490	0.8958
76	61	57	0.9344	79	70	0.8861	89	82	0.9213	229	209	0.9127
75	100	98	0.9800	115	107	0.9304	162	155	0.9568	377	360	0.9549
74	130	129	0.9923	75	74	0.9867	171	162	0.9474	376	365	0.9707
73	93	88	0.9462	86	81	0.9419	129	121	0.9380	308	290	0.9416
72	87	86	0.9885	59	58	0.9831	130	123	0.9462	276	267	0.9674
71	90	86	0.9556	32	30	0.9375	92	89	0.9674	214	205	0.9579
70	123	122	0.9919	66	63	0.9545	126	123	0.9762	315	308	0.9778
69	84	84	1.0000	100	99	0.9900	187	180	0.9626	371	363	0.9784
68	54	53	0.9815	87	86	0.9885	184	180	0.9783	325	319	0.9815
67	77	77	1.0000	80	80	1.0000	175	170	0.9714	332	327	0.9849
66	70	68	0.9714	90	87	0.9667	147	143	0.9728	307	298	0.9707
65	40	38	0.9500	49	42	0.8571	125	109	0.8720	214	189	0.8832
64	22	16	0.7273	40	32	0.8000	104	80	0.7692	166	128	0.7711
63	19	15	0.7895	26	24	0.9231	70	60	0.8571	115	99	0.8609
62	25	24	0.9600	27	25	0.9259	59	54	0.9153	111	103	0.9279
61	12	12	1.0000	19	19	1.0000	56	47	0.8393	87	78	0.8966
60	30	26	0.8667	21	20	0.9524	48	40	0.8333	99	86	0.8687
	1526	1475		1475	1397		2625	2427		5626	5299	

Fy84					NFO				
		JET			PROP		NFO		
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
83	0	0	-	7	7	1.0000	7	7	1.0000
82	11	11	1.0000	10	10	1.0000	21	21	1.0000
81	25	25	1.0000	24	24	1.0000	49	49	1.0000
80	7	7	1.0000	5	5	1.0000	12	12	1.0000
79	84	82	0.9762	74	72	0.9730	158	154	0.9747
78	114	112	0.9825	140	131	0.9357	254	243	0.9567
77	148	134	0.9054	140	131	0.9357	288	265	0.9201
76	64	62	0.9688	92	83	0.9022	156	145	0.9295
75	89	86	0.9663	163	159	0.9755	252	245	0.9722
74	90	88	0.9778	166	158	0.9518	256	246	0.9609
73	79	76	0.9620	137	135	0.9854	216	211	0.9769
72	52	51	0.9808	93	92	0.9892	145	143	0.9862
71	53	53	1.0000	108	103	0.9537	161	156	0.9689
70	48	47	0.9792	99	98	0.9899	147	145	0.9864
69	78	77	0.9872	90	88	0.9778	168	165	0.9821
68	39	38	0.9744	70	68	0.9714	109	106	0.9725
67	37	37	1.0000	39	38	0.9744	76	75	0.9868
66	42	41	0.9762	67	66	0.9851	109	107	0.9817
65	31	25	0.8065	88	75	0.8523	119	100	0.8403
64	15	14	0.9333	63	53	0.8413	78	67	0.8590
63	14	13	0.9286	29	26	0.8966	43	39	0.9070
62	10	8	0.8000	34	32	0.9412	44	40	0.9091
61	5	5	1.0000	23	19	0.8261	28	24	0.8571
60	5	5	1.0000	18	15	0.8333	23	20	0.8696
	1140	1097		1779	1688		2919	2785	

Fy82					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
81	5	5	1.0000	2	2	1.0000	11	11	1.0000	18	18	1.0000
80	6	6	1.0000	3	3	1.0000	1	1	1.0000	10	10	1.0000
79	0	0	0.0000	6	6	1.0000	4	3	0.7500	10	9	0.9000
78	6	6	1.0000	9	9	1.0000	1	1	1.0000	16	16	1.0000
77	18	17	0.9444	36	33	0.9167	42	33	0.7857	96	83	0.8646
76	59	57	0.9661	87	71	0.8161	100	81	0.8100	246	209	0.8496
75	112	107	0.9554	160	127	0.7938	188	152	0.8085	460	386	0.8391
74	160	154	0.9625	84	75	0.8929	187	171	0.9144	431	400	0.9281
73	117	111	0.9487	84	78	0.9286	125	116	0.9280	326	305	0.9356
72	103	101	0.9806	67	64	0.9552	120	109	0.9083	290	274	0.9448
71	101	96	0.9505	37	35	0.9459	92	85	0.9239	230	216	0.9391
70	137	135	0.9854	73	69	0.9452	112	108	0.9643	322	312	0.9689
69	88	88	1.0000	110	109	0.9909	182	172	0.9451	380	369	0.9711
68	60	59	0.9833	97	95	0.9794	168	165	0.9821	325	319	0.9815
67	79	79	1.0000	101	99	0.9802	170	166	0.9765	350	344	0.9829
66	71	70	0.9859	112	111	0.9911	144	140	0.9722	327	321	0.9817
65	47	44	0.9362	57	55	0.9649	126	121	0.9603	230	220	0.9565
64	30	26	0.8667	53	49	0.9245	137	132	0.9635	220	207	0.9409
63	28	26	0.9286	34	29	0.8529	112	100	0.8929	174	155	0.8908
62	27	23	0.8519	34	32	0.9412	81	68	0.8395	142	123	0.8662
61	13	12	0.9231	17	17	1.0000	74	68	0.9189	104	97	0.9327
60	28	28	1.0000	24	22	0.9167	66	62	0.9394	118	112	0.9492
	1267	1250		1287	1190		2243	2065		4825	4505	

Fy82					NFO				
		JET			PROP			NFO	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
81	3	3	1.0000	2	2	1.0000	5	5	1.0000
80	0	0	-	2	2	1.0000	2	2	1.0000
79	5	5	1.0000	1	1	1.0000	6	6	1.0000
78	0	0	-	3	3	1.0000	3	3	1.0000
77	32	32	1.0000	27	25	0.9259	59	57	0.9661
76	60	60	1.0000	79	74	0.9367	139	134	0.9640
75	112	106	0.9464	172	166	0.9651	284	272	0.9577
74	117	108	0.9231	181	171	0.9448	298	279	0.9362
73	97	90	0.9278	149	146	0.9799	246	236	0.9593
72	58	58	1.0000	100	98	0.9800	158	156	0.9873
71	66	65	0.9848	115	108	0.9391	181	173	0.9558
70	59	57	0.9661	100	95	0.9500	159	152	0.9560
69	85	84	0.9882	88	83	0.9432	173	167	0.9653
68	50	50	1.0000	66	66	1.0000	116	116	1.0000
67	39	37	0.9487	41	41	1.0000	80	78	0.9750
66	43	43	1.0000	70	67	0.9571	113	110	0.9735
65	35	35	1.0000	92	90	0.9783	127	125	0.9843
64	24	24	1.0000	87	86	0.9885	111	110	0.9910
63	27	26	0.9630	48	41	0.8542	75	67	0.8933
62	14	12	0.8571	45	36	0.8000	59	48	0.8136
61	8	6	0.7500	29	23	0.7931	37	29	0.7838
60	7	7	1.0000	29	24	0.8276	36	31	0.8611
	941	908		1526	1448		2467	2356	

Fy81					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
80	3	3	1.0000	0	0	0.0000	1	1	1.0000	4	4	1.0000
79	0	0	0.0000	1	1	1.0000	0	0	0.0000	1	1	1.0000
78	2	2	1.0000	0	0	0.0000	0	0	0.0000	2	2	1.0000
77	0	0	0.0000	5	5	1.0000	4	4	1.0000	9	9	1.0000
76	9	9	1.0000	11	10	0.9091	31	25	0.8065	51	44	0.8627
75	123	109	0.8862	175	143	0.8171	227	163	0.7181	525	415	0.7905
74	183	167	0.9126	102	79	0.7745	230	170	0.7391	515	416	0.8078
73	123	112	0.9106	85	70	0.8235	132	118	0.8939	340	300	0.8824
72	115	107	0.9304	72	66	0.9167	122	107	0.8770	309	280	0.9061
71	108	101	0.9352	40	35	0.8750	95	87	0.9158	243	223	0.9177
70	146	144	0.9863	75	72	0.9600	107	101	0.9439	328	317	0.9665
69	91	91	1.0000	110	109	0.9909	177	169	0.9548	378	369	0.9762
68	65	63	0.9692	98	95	0.9694	171	164	0.9591	334	322	0.9641
67	80	80	1.0000	112	109	0.9732	160	157	0.9813	352	346	0.9830
66	72	71	0.9861	121	120	0.9917	147	145	0.9864	340	336	0.9882
65	46	45	0.9783	67	64	0.9552	130	124	0.9538	243	233	0.9588
64	31	29	0.9355	56	53	0.9464	139	137	0.9856	226	219	0.9690
63	30	29	0.9667	34	33	0.9706	120	117	0.9750	184	179	0.9728
62	30	27	0.9000	40	35	0.8750	108	95	0.8796	178	157	0.8820
61	21	17	0.8095	24	23	0.9583	97	80	0.8247	142	120	0.8451
60	28	27	0.9643	31	29	0.9355	74	64	0.8649	133	120	0.9023
	1306	1233		1259	1151		2272	2028		4837	4412	

Fy81					NFO				
		JET			PROP		NFO		
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
80	0	0	-	1	1	1.0000	1	1	1.0000
79	1	1	1.0000	1	1	1.0000	2	2	1.0000
78	0	0	-	0	0	-	0	0	-
77	25	24	0.9600	19	19	1.0000	44	43	0.9773
76	43	41	0.9535	58	56	0.9655	101	97	0.9604
75	130	115	0.8846	181	174	0.9613	311	289	0.9293
74	137	116	0.8467	194	177	0.9124	331	293	0.8852
73	105	96	0.9143	154	150	0.9740	259	246	0.9498
72	68	64	0.9412	108	103	0.9537	176	167	0.9489
71	68	67	0.9853	121	117	0.9669	189	184	0.9735
70	64	59	0.9219	106	99	0.9340	170	158	0.9294
69	94	80	0.8511	92	87	0.9457	186	167	0.8978
68	50	49	0.9800	67	67	1.0000	117	116	0.9915
67	41	40	0.9756	42	41	0.9762	83	81	0.9759
66	47	46	0.9787	70	70	1.0000	117	116	0.9915
65	38	34	0.8947	100	98	0.9800	138	132	0.9565
64	27	27	1.0000	91	88	0.9670	118	115	0.9746
63	29	28	0.9655	54	54	1.0000	83	82	0.9880
62	15	14	0.9333	62	58	0.9355	77	72	0.9351
61	14	11	0.7857	36	30	0.8333	50	41	0.8200
60	9	9	1.0000	30	28	0.9333	39	37	0.9487
	1005	921		1587	1518		2592	2439	

Fy79					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
78	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	1	1	1.0000	0	0	0	1	1	1.0000
76	0	0	0	0	0	0.0000	0	0	0	0	0	0.0000
75	3	3	1.0000	5	5	1.0000	4	4	1.0000	12	12	1.0000
74	37	33	0.8919	22	13	0.5909	105	52	0.4952	164	98	0.5976
73	146	117	0.8014	136	83	0.6103	233	138	0.5923	515	338	0.6563
72	136	119	0.8750	98	68	0.6939	190	132	0.6947	424	319	0.7524
71	132	120	0.9091	60	42	0.7000	136	101	0.7426	328	263	0.8018
70	184	172	0.9348	97	80	0.8247	136	121	0.8897	417	373	0.8945
69	104	99	0.9519	146	121	0.8288	230	185	0.8043	480	405	0.8438
68	68	62	0.9118	117	108	0.9231	198	182	0.9192	383	352	0.9191
67	74	73	0.9865	137	126	0.9197	174	164	0.9425	385	363	0.9429
66	62	60	0.9677	148	147	0.9932	149	144	0.9664	359	351	0.9777
65	41	41	1.0000	77	75	0.9740	145	139	0.9586	263	255	0.9696
64	32	32	1.0000	60	57	0.9500	150	147	0.9800	242	236	0.9752
63	33	31	0.9394	40	39	0.9750	125	122	0.9760	198	192	0.9697
62	32	31	0.9688	45	44	0.9778	118	115	0.9746	195	190	0.9744
61	29	29	1.0000	28	28	1.0000	121	116	0.9587	178	173	0.9719
60	40	38	0.9500	44	41	0.9318	131	116	0.8855	215	195	0.9070
	1153	1060		1261	1078		2345	1978		4759	4116	

Fy79					NFO				
		JET			PROP		NFO		
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
78	0	0	-	0	0	-	0	0	-
77	0	0	-	1	1	1.0000	1	1	1.0000
76	0	0	-	0	0	-	0	0	-
75	74	64	0.8649	62	53	0.8548	136	117	0.8603
74	168	153	0.9107	214	180	0.8411	382	333	0.8717
73	133	122	0.9173	186	167	0.8978	319	289	0.9060
72	87	71	0.8161	138	120	0.8696	225	191	0.8489
71	79	73	0.9241	136	129	0.9485	215	202	0.9395
70	78	75	0.9615	125	121	0.9680	203	196	0.9655
69	112	107	0.9554	121	108	0.8926	233	215	0.9227
68	62	59	0.9516	89	81	0.9101	151	140	0.9272
67	45	45	1.0000	49	47	0.9592	94	92	0.9787
66	55	54	0.9818	75	75	1.0000	130	129	0.9923
65	44	43	0.9773	107	106	0.9907	151	149	0.9868
64	28	28	1.0000	101	100	0.9901	129	128	0.9922
63	28	28	1.0000	59	58	0.9831	87	86	0.9885
62	21	20	0.9524	66	63	0.9545	87	83	0.9540
61	14	14	1.0000	47	44	0.9362	61	58	0.9508
60	10	10	1.0000	40	37	0.9250	50	47	0.9400
	1038	966		1616	1490		2654	2456	

Fy78					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
77	0	0	0.0000	0	0	0.0000	0	0	0.0000	0	0	0.0000
76	0	0	0.0000	0	0	0.0000	0	0	0.0000	0	0	0.0000
75	0	0	0.0000	1	1	1.0000	0	0	0.0000	1	1	1.0000
74	2	2	1.0000	0	0	0.0000	2	2	1.0000	4	4	1.0000
73	42	39	0.9286	36	24	0.6667	83	49	0.5904	161	112	0.6957
72	143	114	0.7972	115	65	0.5652	282	180	0.6383	540	359	0.6648
71	162	143	0.8827	97	58	0.5979	186	134	0.7204	445	335	0.7528
70	218	196	0.8991	146	107	0.7329	161	130	0.8075	525	433	0.8248
69	116	108	0.9310	191	163	0.8534	265	235	0.8868	572	506	0.8846
68	81	78	0.9630	157	138	0.8790	195	184	0.9436	433	400	0.9238
67	83	78	0.9398	156	146	0.9359	177	168	0.9492	416	392	0.9423
66	67	66	0.9851	153	151	0.9869	140	136	0.9714	360	353	0.9806
65	47	47	1.0000	84	80	0.9524	142	136	0.9577	273	263	0.9634
64	31	31	1.0000	62	58	0.9355	152	149	0.9803	245	238	0.9714
63	35	34	0.9714	36	35	0.9722	135	131	0.9704	206	200	0.9709
62	33	32	0.9697	44	43	0.9773	129	126	0.9767	206	201	0.9757
61	30	29	0.9667	27	27	1.0000	128	125	0.9766	185	181	0.9784
60	44	41	0.9318	42	39	0.9286	154	144	0.9351	240	224	0.9333
	1134	1038		1347	1135		2331	2029		4812	4202	

Fy78					NFO				
		JET			PROP		NFO		
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
77	0	0	-	0	0	-	0	0	-
76	0	0	-	1	1	1.0000	1	1	1.0000
75	1	1	1.0000	0	0	-	1	1	1.0000
74	98	86	0.8776	115	111	0.9652	213	197	0.9249
73	146	131	0.8973	185	171	0.9243	331	302	0.9124
72	105	89	0.8476	160	145	0.9063	265	234	0.8830
71	90	82	0.9111	148	131	0.8851	238	213	0.8950
70	87	79	0.9080	138	130	0.9420	225	209	0.9289
69	119	115	0.9664	127	123	0.9685	246	238	0.9675
68	72	70	0.9722	97	88	0.9072	169	158	0.9349
67	51	49	0.9608	55	53	0.9636	106	102	0.9623
66	56	52	0.9286	78	77	0.9872	134	129	0.9627
65	49	48	0.9796	106	105	0.9906	155	153	0.9871
64	31	31	1.0000	100	99	0.9900	131	130	0.9924
63	28	28	1.0000	58	58	1.0000	86	86	1.0000
62	24	22	0.9167	67	64	0.9552	91	86	0.9451
61	15	14	0.9333	52	49	0.9423	67	63	0.9403
60	10	10	1.0000	41	40	0.9756	51	50	0.9804
	982	907		1528	1445		2510	2352	

Fy77					PILOT							
		HELO			JET			PROP			PILOT	
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
76	0	0	0.0000	0	0	0.0000	0	0	0.0000	0	0	0.0000
75	0	0	0.0000	1	1	1.0000	0	0	0.0000	1	1	1.0000
74	0	0	0.0000	0	0	0.0000	0	0	0.0000	0	0	0.0000
73	0	0	0.0000	2	2	1.0000	4	4	1.0000	6	6	1.0000
72	86	77	0.8953	25	20	0.8000	132	103	0.7803	243	200	0.8230
71	165	151	0.9152	89	62	0.6966	203	159	0.7833	457	372	0.8140
70	245	220	0.8980	200	157	0.7850	229	181	0.7904	674	558	0.8279
69	124	117	0.9435	224	207	0.9241	296	274	0.9257	644	598	0.9286
68	94	92	0.9787	192	180	0.9375	231	216	0.9351	517	488	0.9439
67	93	89	0.9570	175	170	0.9714	201	194	0.9652	469	453	0.9659
66	67	66	0.9851	163	161	0.9877	145	142	0.9793	375	369	0.9840
65	47	47	1.0000	93	90	0.9677	144	138	0.9583	284	275	0.9683
64	31	31	1.0000	65	60	0.9231	161	158	0.9814	257	249	0.9689
63	35	35	1.0000	43	41	0.9535	136	133	0.9779	214	209	0.9766
62	33	33	1.0000	47	47	1.0000	134	131	0.9776	214	211	0.9860
61	31	30	0.9677	28	28	1.0000	134	130	0.9701	193	188	0.9741
60	45	44	0.9778	44	44	1.0000	159	156	0.9811	248	244	0.9839
	1096	1032		1391	1270		2309	2119		4796	4421	

Fy77					NFO				
		JET			PROP		NFO		
YG	BEG INV	END INV	CR	BEG INV	END INV	CR	BEG INV	END INV	CR
76	0	0	-	0	0	-	0	0	-
75	1	1	1.0000	0	0	-	1	1	1.0000
74	4	4	1.0000	1	0	-	5	4	0.8000
73	101	94	0.9307	147	133	0.9048	248	227	0.9153
72	108	97	0.8981	159	146	0.9182	267	243	0.9101
71	100	90	0.9000	166	153	0.9217	266	243	0.9135
70	100	90	0.9000	151	136	0.9007	251	226	0.9004
69	123	120	0.9756	135	127	0.9407	258	247	0.9574
68	82	81	0.9878	103	102	0.9903	185	183	0.9892
67	58	57	0.9828	62	61	0.9839	120	118	0.9833
66	58	57	0.9828	79	78	0.9873	137	135	0.9854
65	52	51	0.9808	110	109	0.9909	162	160	0.9877
64	33	32	0.9697	101	101	1.0000	134	133	0.9925
63	31	29	0.9355	59	59	1.0000	90	88	0.9778
62	25	25	1.0000	68	67	0.9853	93	92	0.9892
61	16	16	1.0000	54	52	0.9630	70	68	0.9714
60	10	10	1.0000	43	42	0.9767	53	52	0.9811
	902	854		1438	1366		2340	2220	

APPENDIX B. SAMPLE MEAN VALUES

Table B-1. Mean Values for Full Sample of Aviators

Variable	Mean
CR%	91.0605968
ACP%	0.0450780
VSISSIB%	0.0240245
IRAD%	0.0180602
MSR2%	0.0418060
MSR3%	0.0418060
UNEMP%	6.6065775

Table B-2. Mean Values for Pilot Sample

Variable	Mean
CRPILOT%	85.6314223
ACP%	0.0443630
VSISSIB%	0.0209424
IRAD%	0.0141361
MSR2%	0.0392670
MSR3%	0.0392670
UNEMP%	6.6172775

Table B-3. Mean Values for NFO Sample

Variable	Mean
CRNFO%	91.4860112
ACP%	0.0421178
VSISSIB%	0.0267882
IRAD%	0.0227209
MSR2%	0.0420757
MSR3%	0.0420757
UNEMP%	6.6011220

Table B-4. Mean Values for Helo Pilot Sample

Variable	Mean
CRHELO%	92.2326705
ACP%	0.0500852
VSISSIB%	0.0237784
IRAD%	0.0153409
MSR2%	0.0426136
MSR3%	0.0426136
UNEMP%	6.6008523

Table B-5. Mean Values for Jet Pilot Sample

Variable	Mean
CRJET%	91.9451247
ACP%	0.0474792
VSISSIB%	0.0207479
IRAD%	0.0149584
MSR2%	0.0415512
MSR3%	0.0415512
UNEMP%	6.6102493

Table B-6. Mean Values for Prop Pilot Sample

Variable	Mean
CRPROP%	88.2486957
ACP%	0.0436685
VSISSIB%	0.0221196
IRAD%	0.0146739
MSR2%	0.0407609
MSR3%	0.0407609
UNEMP%	6.6190217

Table B-7. Mean Values for Jet NFO Sample

Variable	Mean
CRJNFO%	92.4948276
ACP%	0.0466954
VSISSIB%	0.0255747
IRAD%	0.0232759
MSR2%	0.0431034
MSR3%	0.0431034
UNEMP%	6.5870690

Table B-8. Mean Values for Prop NFO Sample

Variable	Mean
CRNFO%	90.5215385
ACP%	0.0377534
VSISSIB%	0.0279452
IRAD%	0.0221918
MSR2%	0.0410959
MSR3%	0.0410959
UNEMP%	6.6145205

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